

EXHIBIT L

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE EASTERN DISTRICT OF TEXAS

3 MARSHALL DIVISION

4 ENTROPIC COMMUNICATIONS,

5 LLC,

6 Plaintiff,

Case No.

7 vs.

2:22-cv-00125-JRG

8 CHARTER COMMUNICATIONS,

9 INC.,

10 Defendant.

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14 REMOTE VIDEO DEPOSITION OF

15 RICHARD A. KRAMER

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17
18 August 24, 2023

19 10:08 a.m. Central

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23 Stenographically Reported By:

24 Deanna Amore - CRR, RPR, CSR - 084-003999

<p style="text-align: right;">Page 54</p> <p>1 matter, what you call the process of taking one 2 signal and making an I and a Q signal out of it? 3 A. I'm generally certainly aware, yes. 4 Assign a specific term and contemplate what else 5 that term may be and what would be the most 6 accurate term to provide for you to explain that, 7 I would prefer not to speculate on the fly. 8 Q. In Figure 2 of the '362 patent, I and Q 9 signals based on the RF input are generated prior 10 to digitation; correct? 12:01:58 11 A. Signals 216 and 226, the I and Q signals, 12 are inputs into the ADC -- 13 Q. Is there a -- 14 (Simultaneous speaking.) 15 THE WITNESS: -- ADC1 and an ADC2 to be 16 accurate. Forgive me. 17 BY MR. COHN: 18 Q. Is there any figure that shows 19 digitization of a signal other than an I and a Q 20 signal? 12:02:36 21 A. I prefer not to speculate. Yes, there's, 22 I think, nine figures, if I'm not mistaken, in 23 here. I'd have to go through all of them. 24 Q. Yeah, there are nine figures. I'll invite 25 you to go through the nine figures in the '362</p>	<p style="text-align: right;">Page 56</p> <p>1 one? 2 A. And I would ask where does Dr. Goldberg 3 provide that opinion? 4 Q. I'm asking about whether you have that 5 opinion and whether you can identify me any 6 embodiment. Feel free to look at your report, if 7 you would like. 8 A. I rebutted Dr. Goldberg's report. I don't 9 recall that being raised. Perhaps I'm wrong. If 10 you'd like to point me to where that is, I'd be 12:05:18 11 glad to address that at your direction. 12 Q. Sitting here today with the '362 patent in 13 front of you and having done all the work that 14 you've done in this case, can you take the time you 15 need to flip through the patent and identify for 16 me, if you can, any embodiments described in which 17 the RF input signal is digitized before being 18 processed into I and Q signals? 19 MR. MEGGS: Objection. Form. 20 THE WITNESS: Sir, I've done an extensive 12:06:00 21 review of the '362 patent in this matter. It 22 wasn't a trivial effort. I took it very seriously. 23 I can't give you an answer that's speculatively on 24 the fly. 25 And the claims themselves speak for themselves,</p>
<p style="text-align: right;">Page 55</p> <p>1 patent and let me know if any of the figures depict 2 digitizing the signal before generation of I and Q 3 signals. 4 A. Respectfully, can you show me where 5 Dr. Goldberg says that all of these figures -- if 6 he has that particular opinion because I -- 7 I didn't research all of these figures to answer 8 that question. I'm not prepared to answer that 9 question without speculating. 10 Q. Is there any embodiment shown in the nine 12:03:49 11 figures of the '362 patent where the RF input is 12 digitized before I and Q signals are generated? 13 Go ahead and look at the figures, if you 14 want, and let me know. 15 A. So, right, some of these figures I'd have 16 to go through the specification, and the 17 specification is not limited to just the figures 18 alone. So I'm not prepared to answer that question 19 without speculating. 20 Q. Is there any embodiment described in the 12:04:26 21 '362 patent where the RF input is digitized before 22 being processed into I and Q signals? 23 MR. MEGGS: Objection to form. 24 BY MR. COHN: 25 Q. And can you point me to it, if there is</p>	<p style="text-align: right;">Page 57</p> <p>1 and one skilled in the art, in my opinion, would 2 recognize the claims. And it could be any 3 combination of embodiments or description or things 4 put together within the specification that informs 5 a POSITA, person of ordinary skill in the art. 6 I'm not prepared to speculate. Your question 7 is new to me. It's not one that's been raised, 8 that I'm aware of. Certainly, this is the first 9 time I've heard of it from you, and I'm not 10 prepared to answer that question here today without 12:06:56 11 having to speculate. 12 BY MR. COHN: 13 Q. Okay. Are you able to identify any 14 embodiment in the '362 patent, either in the 15 figures or the specifications, that does not 16 down-convert the incoming analog signal before 17 analog-to-digital conversion? 18 A. It appears Figures 2, 4, perhaps Figure 6 19 have elements of down-converting after 20 analog-to-digital converting if that's what your 12:09:20 21 question is. 22 Q. That was not my question. 23 A. Sorry. 24 Q. I think we all agree that the figures show 25 that there is down-converting after digitization.</p>

<p style="text-align: right;">Page 90</p> <p>1 want to be clear about what we're talking about, 2 the serial interface for claim 12 is a serial 3 interface that's a data -- digital datastream via a 4 serial interface relative to the output marked as 5 claim 11b, which is, by said digital circuitry of 6 said wideband receiver system, said selected 7 plurality of television channels to a demodulator 8 as a digital datastream. 9 So it's just not a generic serial 10 interface. I just want to be really clear about 14:25:38 11 that. 12 Q. So there's digital circuitry of the 13 wideband receiver system -- right? -- and that 14 outputs a digital datastream to a demodulator; 15 right? And in claim 12 that output is to a serial 16 interface. Did I get that right? 17 A. It's a dependent claim that depends on all 18 the other preceding claim elements, but the end 19 result is that based on all of the preceding claim 20 elements in that context, then there would be a 14:26:45 21 said plurality of television channels amongst the 22 desired and undesired as based on the 23 down-converting digitizing selecting steps and 24 outputting steps, and then based on all of that, 25 then claim 12 depends on those, comprising,</p>	<p style="text-align: right;">Page 92</p> <p>1 witnesses that was deposited said we could sprinkle 2 tuners, and they otherwise would have been cost 3 prohibitive. I list benefits including power 4 consumption and the lower cost. Those are just 5 examples. 6 I know there was an article that something was 7 -- to the effect of why Broadcom's tuners are cool. 8 There's certainly a fair amount of published 9 benefits. 10 BY MR. COHN: 14:32:51 11 Q. Benefits with respect to the accused 12 product? Is that what you mean? 13 A. Benefits to what? 14 Q. With respect to the accused products in 15 this case? 16 You referred to Broadcom's and Charter's 17 tuner as being so cool. You're referring to some 18 products; right? 19 A. Yes, sir. I looked at it based on the 20 implementation and the realization of the 14:33:11 21 inventions themselves, not just the product, but 22 the patents speak for themselves. I know that 23 Mr. Ling, Dr. Ling -- forgive me -- experienced 24 skepticism when they presented what they were able 25 to accomplish.</p>
<p style="text-align: right;">Page 91</p> <p>1 outputting by said digital circuitry of said 2 wideband receiver system said digital datastream 3 via a serial interface. 4 So it's in that context. 5 Q. The serial interface mentioned in claim 12 6 can be implemented according to commonly known 7 methods for such interfaces; right? 8 A. Disagree. 9 Q. You disagree with what I just said? 10 A. Yes, sir. 14:27:53 11 Q. Did you render opinions in this case on 12 what you believe the benefit is of claim 11 of the 13 '362 patent? 14 MR. MEGGS: Objection to form. 15 THE WITNESS: I believe that at least on 16 paragraph 53, paragraph 157 to paragraph 159, cover 17 my rebuttal with respect to Dr. Goldberg's failure 18 to consider secondary considerations of 19 nonobviousness. I believe in there is mentioned 20 praise and skepticism. 14:31:18 21 I also know that I did an infringement report 22 where I talked about the advantages, for instance, 23 and some of it is actually repeated here on page -- 24 the benefits, on page 54, for instance, the ability 25 to replace nine tuners and the fact that one of the</p>	<p style="text-align: right;">Page 93</p> <p>1 Q. Let's look at now the '775 patent. This 2 is the other patent you rendered opinions on? 3 A. Yes. 4 Q. Actually, since we are switching, do you 5 mind if we take a quick break? I can clear my 6 table off of a lot of things. Three days of 7 depositions, I've used up all my paper for writing 8 notes. So I need that too. So let's take five 9 minutes. 10 THE VIDEOGRAPHER: Going off the record. The 14:34:35 11 time is 2:34 p.m. 12 (A short break was taken.) 13 THE VIDEOGRAPHER: We are going back on the 14 video record. The time is 2:43 p.m. 15 BY MR. COHN: 16 Q. I want to talk about the '775 patent. 17 That's the other patent you rendered validity 18 opinions on; correct? 19 A. Yes, sir. 20 Q. And if you could turn to your expert 14:43:42 21 report to page 14, please, there's a table, 22 Table 2. 23 A. Okay. I have the Court's claim 24 construction that I am looking at Table 2. 25 Q. Fourth row down, not counting the title,</p>

24 (Pages 90 - 93)